



$$I(J^P) = 0(\frac{1}{2}^+) \text{ Status: } ***$$

We have omitted some results that have been superseded by later experiments. See our earlier editions.

NODE=S018

Λ MASS

The fit uses Λ , Σ^+ , Σ^0 , Σ^- mass and mass-difference measurements.

VALUE (MeV)	EVTS	DOCUMENT ID	TECN	COMMENT
1115.683±0.006 OUR FIT				
1115.683±0.006 OUR AVERAGE				
1115.678±0.006±0.006	20k	HARTOUNI	94	SPEC $p p$ 27.5 GeV/c
1115.690±0.008±0.006	18k	¹ HARTOUNI	94	SPEC $p p$ 27.5 GeV/c
• • • We do not use the following data for averages, fits, limits, etc. • • •				
1115.59 ± 0.08	935	HYMAN	72	HEBC
1115.39 ± 0.12	195	MAYEUR	67	EMUL
1115.6 ± 0.4		LONDON	66	HBC
1115.65 ± 0.07	488	² SCHMIDT	65	HBC
1115.44 ± 0.12		³ BHOWMIK	63	RVUE

¹ We assume *CPT* invariance: this is the $\bar{\Lambda}$ mass as measured by HARTOUNI 94. See below for the fractional mass difference, testing *CPT*.

² The SCHMIDT 65 masses have been reevaluated using our April 1973 proton and K^\pm and π^\pm masses. P. Schmidt, private communication (1974).

³ The mass has been raised 35 keV to take into account a 46 keV increase in the proton mass and an 11 keV decrease in the π^\pm mass (note added *Reviews of Modern Physics* **39** 1 (1967)).

NODE=S018M

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OCCUR=2

NODE=S018M;LINKAGE=C

NODE=S018M;LINKAGE=A

NODE=S018M;LINKAGE=L

$$(m_\Lambda - m_{\bar{\Lambda}}) / m_\Lambda$$

A test of *CPT* invariance.

VALUE (units 10^{-5})	EVTS	DOCUMENT ID	TECN	COMMENT
= 0.1 ± 1.1 OUR AVERAGE				Error includes scale factor of 1.6.
+ 1.3 ± 1.2	31k	⁴ RYBICKI	96	NA32 π^- Cu, 230 GeV
- 1.08 ± 0.90		HARTOUNI	94	SPEC $p p$ 27.5 GeV/c
4.5 ± 5.4		CHIEN	66	HBC 6.9 GeV/c $\bar{p} p$
• • • We do not use the following data for averages, fits, limits, etc. • • •				
-26 ± 13		BADIER	67	HBC 2.4 GeV/c $\bar{p} p$

⁴ RYBICKI 96 is an analysis of old ACCMOR (NA32) data.

NODE=S018DM

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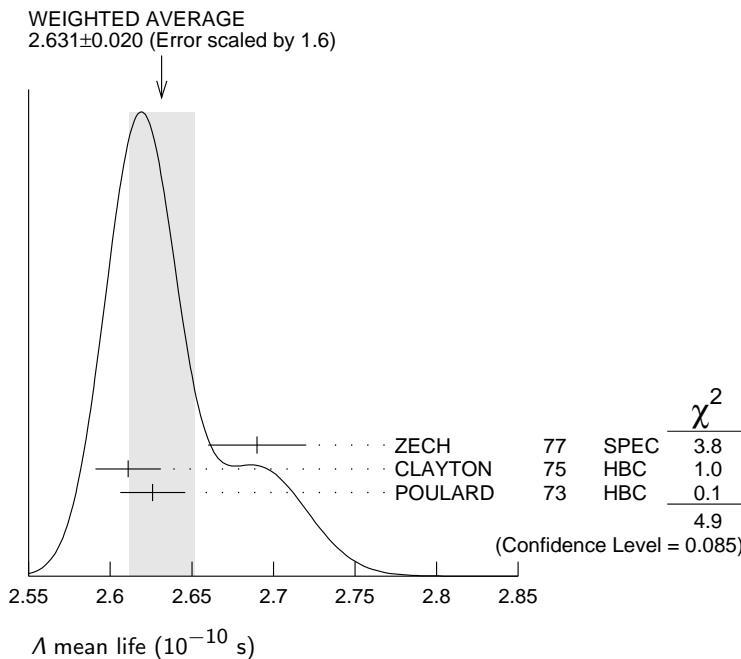
NODE=S018DM;LINKAGE=RY

NODE=S018215

NODE=S018215

NODE=S018T

VALUE (10^{-10} s)	EVTS	DOCUMENT ID	TECN	COMMENT
2.632±0.020 OUR AVERAGE				Error includes scale factor of 1.6. See the ideogram below.
2.69 ± 0.03	53k	ZECH	77	SPEC Neutral hyperon beam
2.611±0.020	34k	CLAYTON	75	HBC 0.96–1.4 GeV/c $K^- p$
2.626±0.020	36k	POULARD	73	HBC 0.4–2.3 GeV/c $K^- p$
• • • We do not use the following data for averages, fits, limits, etc. • • •				
2.69 ± 0.05	6582	ALTHOFF	73B	OSPK $\pi^+ n \rightarrow \Lambda K^+$
2.54 ± 0.04	4572	BALTAY	71B	HBC $K^- p$ at rest
2.535±0.035	8342	GRIMM	68	HBC
2.47 ± 0.08	2600	HEPP	68	HBC
2.35 ± 0.09	916	BURAN	66	HLBC
2.452 ^{+0.056} _{-0.054}	2213	ENGELMANN	66	HBC
2.59 ± 0.09	794	HUBBARD	64	HBC
2.59 ± 0.07	1378	SCHWARTZ	64	HBC
2.36 ± 0.06	2239	BLOCK	63	HEBC



$(\tau_\Lambda - \tau_{\bar{\Lambda}}) / \tau_\Lambda$

A test of *CPT* invariance.

VALUE	DOCUMENT ID	TECN	COMMENT
-0.001 ± 0.009 OUR AVERAGE			
-0.0018±0.0066±0.0056	BARNES 96	CNTR	LEAR $\bar{p}p \rightarrow \bar{\Lambda}\Lambda$
0.044 ± 0.085	BADIER 67	HBC	2.4 GeV/c $\bar{p}p$

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Λ MAGNETIC MOMENT

See the “Note on Baryon Magnetic Moments” above. Measurements with an error $\geq 0.15 \mu_N$ have been omitted.

VALUE (μ_N)	EVTS	DOCUMENT ID	TECN	COMMENT
-0.613 ± 0.004 OUR AVERAGE				
-0.606 ± 0.015	200k	COX 81	SPEC	
-0.6138±0.0047	3M	SCHACHIN... 78	SPEC	
-0.59 ± 0.07	350k	HELLER 77	SPEC	
-0.57 ± 0.05	1.2M	BUNCE 76	SPEC	
-0.66 ± 0.07	1300	DAHL-JENSEN 71	EMUL	200 kG field

Λ ELECTRIC DIPOLE MOMENT

A nonzero value is forbidden by both *T* invariance and *P* invariance.

VALUE (10^{-16} e-cm)	CL%	DOCUMENT ID	TECN
< 1.5	95	5 PONDROM 81	SPEC
• • • We do not use the following data for averages, fits, limits, etc. • • •			
<100	95	6 BARONI 71	EMUL
<500	95	GIBSON 66	EMUL

5 PONDROM 81 measures $(-3.0 \pm 7.4) \times 10^{-17}$ e-cm.
6 BARONI 71 measures $(-5.9 \pm 2.9) \times 10^{-15}$ e-cm.

NODE=S018DT

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NODE=S018224

NODE=S018MM

NODE=S018MM

NODE=S018MM

NODE=S018EDM

NODE=S018EDM

NODE=S018EDM

NODE=S018EDM;LINKAGE=P

NODE=S018EDM;LINKAGE=B

Λ DECAY MODES

NODE=S018235;NODE=S018

Mode	Fraction (Γ_i/Γ)
$\Gamma_1 p\pi^-$	(63.9 \pm 0.5) %
$\Gamma_2 n\pi^0$	(35.8 \pm 0.5) %
$\Gamma_3 n\gamma$	(1.75 \pm 0.15) \times 10 $^{-3}$
$\Gamma_4 p\pi^-\gamma$	[a] (8.4 \pm 1.4) \times 10 $^{-4}$
$\Gamma_5 p e^-\bar{\nu}_e$	(8.32 \pm 0.14) \times 10 $^{-4}$
$\Gamma_6 p\mu^-\bar{\nu}_\mu$	(1.57 \pm 0.35) \times 10 $^{-4}$

[a] See the Listings below for the pion momentum range used in this measurement.

LINKAGE=SD

CONSTRAINED FIT INFORMATION

An overall fit to 5 branching ratios uses 20 measurements and one constraint to determine 5 parameters. The overall fit has a $\chi^2 = 10.5$ for 16 degrees of freedom.

The following *off-diagonal* array elements are the correlation coefficients $\langle \delta x_i \delta x_j \rangle / (\delta x_i \cdot \delta x_j)$, in percent, from the fit to the branching fractions, $x_i \equiv \Gamma_i / \Gamma_{\text{total}}$. The fit constrains the x_i whose labels appear in this array to sum to one.

x_2	-100			
x_3	-2	-1		
x_5	46	-46	-1	
x_6	0	0	0	0

$x_1 \quad x_2 \quad x_3 \quad x_5$

 Λ BRANCHING RATIOS

NODE=S018240

$\Gamma(p\pi^-)/\Gamma(N\pi)$	$\Gamma_1/(\Gamma_1+\Gamma_2)$
VALUE	EVTS
0.641 \pm 0.005 OUR FIT	
0.640 \pm 0.005 OUR AVERAGE	
0.646 \pm 0.008	4572
0.635 \pm 0.007	6736
0.643 \pm 0.016	903
0.624 \pm 0.030	CRAWFORD
	BALTYA
	DOYLE
	HUMPHREY
	71B HBC
	69 HBC
	62 HBC
	59B HBC
	$K^- p$ at rest
	$\pi^- p \rightarrow \Lambda K^0$

NODE=S018R1
NODE=S018R1

$\Gamma(n\pi^0)/\Gamma(N\pi)$	$\Gamma_2/(\Gamma_1+\Gamma_2)$
VALUE	EVTS
0.359 \pm 0.005 OUR FIT	
0.310 \pm 0.028 OUR AVERAGE	
0.35 \pm 0.05	BROWN
0.291 \pm 0.034	CHRETIEN
	63 HLBC
	63 HLBC

NODE=S018R2
NODE=S018R2

$\Gamma(n\gamma)/\Gamma_{\text{total}}$	Γ_3/Γ
VALUE (units 10 $^{-3}$)	EVTS
1.75 \pm 0.15 OUR FIT	
1.75 \pm 0.15	1816
• • • We do not use the following data for averages, fits, limits, etc. • • •	LARSON
1.78 \pm 0.24 $^{+0.14}_{-0.16}$	NOBLE
	93 SPEC
	See LARSON 93

NODE=S018R8
NODE=S018R8

$\Gamma(n\gamma)/\Gamma(n\pi^0)$	Γ_3/Γ_2
VALUE (units 10 $^{-3}$)	EVTS
• • • We do not use the following data for averages, fits, limits, etc. • • •	BIAGI
2.86 \pm 0.74 \pm 0.57	86 SPEC
	SPS hyperon beam

NODE=S018R7
NODE=S018R7

$\Gamma(p\pi^-\gamma)/\Gamma(p\pi^-)$	Γ_4/Γ_1
VALUE (units 10 $^{-3}$)	EVTS
1.32 \pm 0.22	72 BAGGETT
	72C HBC
	$\pi^- < 95$ MeV/c

NODE=S018R6
NODE=S018R6

$\Gamma(pe^-\bar{\nu}_e)/\Gamma(p\pi^-)$	Γ_5/Γ_1				
$\text{VALUE (units } 10^{-3})$	EVTS	DOCUMENT ID	TECN	COMMENT	NODE=S018R5
1.301±0.019 OUR FIT					
1.301±0.019 OUR AVERAGE					
1.335±0.056 7111 BOURQUIN 83 SPEC SPS hyperon beam					
1.313±0.024 10k WISE 80 SPEC					
1.23 ± 0.11 544 LINDQUIST 77 SPEC $\pi^- p \rightarrow K^0 \Lambda$					
1.27 ± 0.07 1089 KATZ 73 HBC					
1.31 ± 0.06 1078 ALTHOFF 71 OSPK					
1.17 ± 0.13 86 ⁷ CANTER 71 HBC $K^- p$ at rest					
1.20 ± 0.12 143 ⁸ MALONEY 69 HBC					
1.17 ± 0.18 120 ⁸ BAGLIN 64 FBC K^- freon 1.45 GeV/c					
1.23 ± 0.20 150 ⁸ ELY 63 FBC					
• • • We do not use the following data for averages, fits, limits, etc. • • •					
1.32 ± 0.15	218	⁷ LINDQUIST	71	OSPK	See LINDQUIST 77
7 Changed by us from $\Gamma(pe^-\bar{\nu}_e)/\Gamma(N\pi)$ assuming the authors used $\Gamma(p\pi^-)/\Gamma_{\text{total}} = 2/3$.					
8 Changed by us from $\Gamma(pe^-\bar{\nu}_e)/\Gamma(N\pi)$ because $\Gamma(pe^-\bar{\nu}_e)/\Gamma(p\pi^-)$ is the directly measured quantity.					
$\Gamma(p\mu^-\bar{\nu}_\mu)/\Gamma(N\pi)$	$\Gamma_6/(\Gamma_1+\Gamma_2)$				
$\text{VALUE (units } 10^{-4})$	EVTS	DOCUMENT ID	TECN	COMMENT	NODE=S018R4
1.57±0.35 OUR FIT					
1.57±0.35 OUR AVERAGE					
1.4 ± 0.5 14 BAGGETT 72B HBC $K^- p$ at rest					
2.4 ± 0.8 9 CANTER 71B HBC $K^- p$ at rest					
1.3 ± 0.7 3 LIND 64 RVUE					
1.5 ± 1.2 2 RONNE 64 FBC					
Λ DECAY PARAMETERS					
See the "Note on Baryon Decay Parameters" in the neutron Listings. Some early results have been omitted.					
α_- FOR $\Lambda \rightarrow p\pi^-$	NODE=S018245				
VALUE	EVTS	DOCUMENT ID	TECN	COMMENT	NODE=S018245
0.642±0.013 OUR AVERAGE					
0.584±0.046 8500 ASTBURY 75 SPEC					
0.649±0.023 10325 CLELAND 72 OSPK					
0.67 ± 0.06 3520 DAUBER 69 HBC From Ξ decay					
0.645±0.017 10130 OVERSETH 67 OSPK Λ from $\pi^- p$					
0.62 ± 0.07 1156 CRONIN 63 CNTR Λ from $\pi^- p$					
α_+ FOR $\bar{\Lambda} \rightarrow \bar{p}\pi^+$	NODE=S018A+				
VALUE	EVTS	DOCUMENT ID	TECN	COMMENT	NODE=S018A+
-0.71 ± 0.08 OUR AVERAGE					
-0.755±0.083±0.063 ≈ 8.7k ABLIKIM 10 BES $J/\psi \rightarrow \Lambda\bar{\Lambda}$					
-0.63 ± 0.13 770 TIXIER 88 DM2 $J/\psi \rightarrow \Lambda\bar{\Lambda}$					
ϕ ANGLE FOR $\Lambda \rightarrow p\pi^-$	$(\tan\phi = \beta / \gamma)$	NODE=S018F-			
$\text{VALUE } (^{\circ})$	EVTS	DOCUMENT ID	TECN	COMMENT	NODE=S018F-
- 6.5± 3.5 OUR AVERAGE					
- 7.0 ± 4.5 10325 CLELAND 72 OSPK Λ from $\pi^- p$					
- 8.0 ± 6.0 10130 OVERSETH 67 OSPK Λ from $\pi^- p$					
13.0 ± 17.0 1156 CRONIN 63 OSPK Λ from $\pi^- p$					
$\alpha_0 / \alpha_- = \alpha(\Lambda \rightarrow n\pi^0) / \alpha(\Lambda \rightarrow p\pi^-)$	NODE=S018A0				
VALUE	EVTS	DOCUMENT ID	TECN	COMMENT	NODE=S018A0
1.01 ± 0.07 OUR AVERAGE					
1.000±0.068 4760 ⁹ OLSEN 70 OSPK $\pi^+ n \rightarrow \Lambda K^+$					
1.10 ± 0.27 CORK 60 CNTR					
9 OLSEN 70 compares proton and neutron distributions from Λ decay.					

NODE=S018A0;LINKAGE=O

$(\alpha + \bar{\alpha})/(\alpha - \bar{\alpha})$ in $\Lambda \rightarrow p\pi^-$, $\bar{\Lambda} \rightarrow \bar{p}\pi^+$

Zero if CP is conserved; α_- and α_+ are the asymmetry parameters for $\Lambda \rightarrow p\pi^-$ and $\bar{\Lambda} \rightarrow \bar{p}\pi^+$ decay. See also the Ξ^- for a similar test involving the decay chain $\Xi^- \rightarrow \Lambda\pi^-$, $\Lambda \rightarrow p\pi^-$ and the corresponding antiparticle chain.

VALUE	EVTS	DOCUMENT ID	TECN	COMMENT
0.006±0.021 OUR AVERAGE				
-0.081±0.055±0.059	≈ 8.7k	ABLIKIM	10	BES $J/\psi \rightarrow \Lambda\bar{\Lambda}$
+0.013±0.022	96k	BARNES	96	CNTR LEAR $\bar{p}p \rightarrow \bar{\Lambda}\Lambda$
+0.01 ± 0.10	770	TIXIER	88	DM2 $J/\psi \rightarrow \Lambda\bar{\Lambda}$
-0.02 ± 0.14	10k	10 CHAUVAT	85	CNTR $p\bar{p}$, $\bar{p}p$ ISR
• • • We do not use the following data for averages, fits, limits, etc. • • •				
-0.07 ± 0.09	4063	BARNES	87	CNTR See BARNES 96

10 CHAUVAT 85 actually gives $\alpha_+(\bar{\Lambda})/\alpha_-(\Lambda) = -1.04 \pm 0.29$. Assumes polarization is same in $\bar{p}p \rightarrow \bar{\Lambda}X$ and $p\bar{p} \rightarrow \Lambda X$. Tests of this assumption, based on C -invariance and fragmentation, are satisfied by the data.

g_A / g_V FOR $\Lambda \rightarrow p e^- \bar{\nu}_e$

Measurements with fewer than 500 events have been omitted. Where necessary, signs have been changed to agree with our conventions, which are given in the "Note on Baryon Decay Parameters" in the neutron Listings. The measurements all assume that the form factor $g_2 = 0$. See also the footnote on DWORKIN 90.

VALUE	EVTS	DOCUMENT ID	TECN	COMMENT
-0.718±0.015 OUR AVERAGE				
-0.719±0.016±0.012	37k	11 DWORKIN	90	SPEC $e\nu$ angular corr.
-0.70 ± 0.03	7111	BOURQUIN	83	SPEC $\Xi \rightarrow \Lambda\pi^-$
-0.734±0.031	10k	12 WISE	81	SPEC $e\nu$ angular correl.

• • • We do not use the following data for averages, fits, limits, etc. • • •

-0.63 ± 0.06 817 ALTHOFF 73 OSPK Polarized Λ

11 The tabulated result assumes the weak-magnetism coupling $w \equiv g_W(0)/g_V(0)$ to be 0.97, as given by the CVC hypothesis and as assumed by the other listed measurements. However, DWORKIN 90 measures w to be 0.15 ± 0.30 , and then $g_A/g_V = -0.731 \pm 0.016$.

12 This experiment measures only the absolute value of g_A/g_V .

Λ REFERENCES

We have omitted some papers that have been superseded by later experiments. See our earlier editions.

ABLIKIM	10	PR D81 012003	M. Ablikim <i>et al.</i>	(BES Collab.)	REFID=53223
BARNES	96	PR C54 1877	P.D. Barnes <i>et al.</i>	(CERN PS-185 Collab.)	REFID=48062
RYBICKI	96	APP B27 2155	K. Rybicki	(BNL E766 Collab.)	REFID=47513
HARTOUNI	94	PRL 72 1322	E.P. Hartouni <i>et al.</i>	(BNL E766 Collab.)	REFID=43688
Also		PRL 72 2821 (erratum)	E.P. Hartouni <i>et al.</i>	(BNL-811 Collab.)	REFID=43913
LARSON	93	PR D47 799	K.D. Larson <i>et al.</i>	(BIRM, BOST, BRCO+)	REFID=43099
NOBLE	92	PRl 69 414	A.J. Noble <i>et al.</i>	(MICH, WISC, RUTG+)	REFID=42138
DWORKIN	90	PR D41 780	J. Dworkin <i>et al.</i>	(CMU, SACL, LANL+)	REFID=41060
TIXIER	88	PL B212 523	M.H. Tixier <i>et al.</i>	(DM2 Collab.)	REFID=40593
BARNES	87	PL B199 147	P.D. Barnes <i>et al.</i>	(BRIS, CERN, GEVA+)	REFID=40320
BIAGI	86	ZPHY C30 201	S.F. Biagi <i>et al.</i>	(CERN, CLER, UCLA+)	REFID=11825
CHAUVAT	85	PL 163B 273	P. Chauvat <i>et al.</i>	(BRIS, GEVA, HEIDP+)	REFID=11824
BOURQUIN	83	ZPHY C21 1	M.H. Bourquin <i>et al.</i>	(MICH, WISC, RUTG, MINN+)	REFID=11823
COX	81	PRL 46 877	P.T. Cox <i>et al.</i>	(WISC, MICH, RUTG+)	REFID=11820
PONDROM	81	PR D23 814	L. Pondrom <i>et al.</i>	(MASA, BNL)	REFID=11821
WISE	81	PL 98B 123	J.E. Wise <i>et al.</i>	(MASA, BNLL)	REFID=11822
WISE	80	PL 91B 165	J.E. Wise <i>et al.</i>	(SIEG, CERN, DORT, HEIDH)	REFID=11819
SCHACHIN...	78	PRL 41 1348	L. Schachinger <i>et al.</i>	(WISC, MICH, RUTG)	REFID=11818
HELLER	77	PL 68B 480	K. Heller <i>et al.</i>	(LOIC, CERN, ETH+)	REFID=11814
LINDQUIST	77	PR D16 2104	J. Lindquist <i>et al.</i>	(MICH, WISC, HEIDH)	REFID=11815
Also		JPG 2 L211	J. Lindquist <i>et al.</i>	(EFI, OSU, ANL)	REFID=11816
ZECH	77	NP B124 413	G. Zech <i>et al.</i>	(EFL, WUSL, OSU+)	REFID=11817
BUNCE	76	PRL 36 1113	G.R.M. Bunce <i>et al.</i>	(WISL, MICH, RUTG)	REFID=11812
ASTBURY	75	NP B99 30	P. Astbury <i>et al.</i>	(LOIC, CERN, ETH+)	REFID=11810
CLAYTON	75	NP B95 130	E.F. Clayton <i>et al.</i>	(LOIC, RHEL)	REFID=11811
ALTHOFF	73	PL 43B 237	K.H. Althoff <i>et al.</i>	(CERN, HEID)	REFID=11806
ALTHOFF	73B	NP B66 29	K.H. Althoff <i>et al.</i>	(CERN, HEID)	REFID=11807
KATZ	73	Thesis MDDP-TR-74-044	C.N. Katz	(UMD)	REFID=11808
POULARD	73	PL 46B 135	G. Poulard, A. Givernaud, A.C. Borg	(SACL)	REFID=11809
BAGGETT	72B	ZPHY 252 362	M.J. Baggett <i>et al.</i>	(HEID)	REFID=11801
BAGGETT	72C	PL 42B 379	M.J. Baggett <i>et al.</i>	(HEID)	REFID=11802
CLELAND	72	NP B40 221	W.E. Cleland <i>et al.</i>	(CERN, GEVA, LUND)	REFID=11804
HYMAN	72	PR D5 1063	L.G. Hyman <i>et al.</i>	(ANL, CMU)	REFID=11805
ALTHOFF	71	PL 37B 531	K.H. Althoff <i>et al.</i>	(CERN, HEID)	REFID=11789
BALTAY	71B	PR D4 670	C. Baltay <i>et al.</i>	(COLU, BING)	REFID=11791
BARONI	71	LNC 2 1256	G. Baroni, S. Petrera, G. Romano	(ROMA)	REFID=11793
CANTER	71	PRL 26 868	J. Canter <i>et al.</i>	(STON, COLU)	REFID=11794

CANTER	71B	PRL 27 59	J. Canter <i>et al.</i>	(STON, COLU)	REFID=11795
DAHL-JENSEN	71	NC 3A 1	E. Dahl-Jensen <i>et al.</i>	(CERN, ANKA, LAUS+)	REFID=11796
LINDQUIST	71	PRL 27 612	J. Lindquist <i>et al.</i>	(EFI, WUSL, OSU+)	REFID=11799
OLSEN	70	PR 24 843	S.L. Olsen <i>et al.</i>	(WISC, MICH)	REFID=11788
DAUBER	69	PR 179 1262	P.M. Dauber <i>et al.</i>	(LRL)	REFID=11783
DOYLE	69	Thesis UCRL 18139	J.C. Doyle	(LRL)	REFID=11074
MALONEY	69	PRL 23 425	J.E. Maloney, B. Sechi-Zorn	(UMD)	REFID=11785
GRIMM	68	NC 54A 187	H.J. Grimm	(HEID)	REFID=11780
HEPP	68	ZPHY 214 71	V. Hepp, H. Schleich	(HEID)	REFID=11781
BADIER	67	PL 25B 152	J. Badier <i>et al.</i>	(EPOL)	REFID=11776
MAYEUR	67	U.Libr.Bruz.Bul. 32	C. Mayeur, E. Tompa, J.H. Wickens	(BELG, LOUC)	REFID=11778
OVERSETH	67	PRL 19 391	O.E. Overseth, R.F. Roth	(MICH, PRIN)	REFID=11779
PDG	67	RMP 39 1	A.H. Rosenfeld <i>et al.</i>	(LRL, CERN, YALE)	REFID=41171
BURAN	66	PL 20 318	T. Buran <i>et al.</i>	(OSLO)	REFID=11770
CHIEN	66	PR 152 1171	C.Y. Chien <i>et al.</i>	(YALE, BNL)	REFID=11771
ENGELMANN	66	NC 45A 1038	R. Engelmann <i>et al.</i>	(HEID, REHO)	REFID=11772
GIBSON	66	NC 45A 882	W.M. Gibson, K. Green	(BRIS)	REFID=11773
LONDON	66	PR 143 1034	G.W. London <i>et al.</i>	(BNL, SYRA)	REFID=11774
SCHMIDT	65	PR 140B 1328	P. Schmidt	(COLU)	REFID=11768
BAGLIN	64	NC 35 977	C. Baglin <i>et al.</i>	(EPOL, CERN, LOUC, RHEL+)	REFID=11753
HUBBARD	64	PR 135 B183	J.R. Hubbard <i>et al.</i>	(LRL)	REFID=11754
LIND	64	PR 135 B1483	V.G. Lind <i>et al.</i>	(WISC)	REFID=11757
RONNE	64	PL 11 357	B.E. Ronne <i>et al.</i>	(CERN, EPOL, LOUC+)	REFID=11758
SCHWARTZ	64	Thesis UCRL 11360	J.A. Schwartz	(LRL)	REFID=11759
BHOWMIK	63	NC 28 1494	B. Bhowmik, D.P. Goyal	(DELH)	REFID=11745
BLOCK	63	PR 130 766	M.M. Block <i>et al.</i>	(NWES, BGNA, SYRA+)	REFID=11746
BROWN	63	PR 130 769	J.L. Brown <i>et al.</i>	(LRL, MICH)	REFID=11057
CHRETIEN	63	PR 131 2208	M. Chretien <i>et al.</i>	(BRAN, BROW, HARV+)	REFID=11056
CRONIN	63	PR 129 1795	J.W. Cronin, O.E. Overseth	(PRIN)	REFID=11749
ELY	63	PR 131 868	R.P. Ely <i>et al.</i>	(LRL)	REFID=11750
HUMPHREY	62	PR 127 1305	W.E. Humphrey, R.R. Ross	(LRL)	REFID=11743
CORK	60	PR 120 1000	B. Cork <i>et al.</i>	(LRL, PRIN, BNL)	REFID=11735
CRAWFORD	59B	PRL 2 266	F.S. Crawford <i>et al.</i>	(LRL)	REFID=11049